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1961

Annual Report

The Babcock & Wilcox Company

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Our 94th Year of Helping Industry Serve America

The Babcock & Wilcox Company

Incorporated in 1881 from a partnership formed in 1867

Directors

A. G. PRATT, *Chairman*
L. M. CURRIE
WALTHER H. FELDMANN
J. ROY GORDON
C. W. MIDDLETON
M. NIELSEN
STODDARD M. STEVENS
W. J. THOMAS
B. A. TOMPKINS
JOHN C. TRAPHAGEN
L. S. WILCOXSON

Officers

M. NIELSEN, *President*
J. S. ANDERSON, *Vice President*
R. A. BARR, *Vice President*
CARL CLAUS, *Vice President*
J. P. CRAVEN, *Vice President*
L. M. CURRIE, *Vice President*
J. D. HITCH, JR., *Vice President*
G. W. KESSLER, *Vice President*
S. T. MACKENZIE, *Vice President*
ALAN E. PHIN, *Vice President*
W. H. ROWAND, *Vice President*
A. P. TABER, *Vice President*
W. J. THOMAS, *Vice President*
L. S. WILCOXSON, *Vice President*
R. J. CANTWELL, *Comptroller*
W. G. DRYDEN, *Treasurer*
MARTIN VICTOR, *Secretary*
O. R. CARPENTER, *Assistant Vice President*
N. K. FELDMAN, *Assistant Comptroller*
E. F. HORGAN, *Assistant Secretary*

General Offices	161 East 42nd Street, New York 17, New York
Stock Transfer Agent	Bankers Trust Company, 16 Wall Street, New York 15, New York
Registrar	The Bank of New York, 48 Wall Street, New York 15, New York
General Counsel	Sullivan & Cromwell
Auditors	Price Waterhouse & Co.

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The Babcock & Wilcox Company

Eighty-first

Annual Report

for the year ended December 31

1961

1961 Highlights

	1961	1960
Per Share Issued[1]		
Net income for the year	$ 3.27	$ 2.88
Cash dividends declared	1.45	1.25
Stockholders' equity	31.23	29.39
In Thousands of Dollars		
Orders received	$361,285	$301,146
Unfilled orders	333,027	291,095
Sales (on percentage of completion method for long-term contracts)	319,353	310,999
Income before income taxes and minority interest	43,122	36,500
U. S. and foreign taxes on income	22,580	18,380
Net income for the year	20,241	17,817
Cash dividends declared	8,849	7,632
Expenditures for property, plant and equipment	6,188	6,105
Depreciation and amortization	8,673	8,543
Payrolls and employee benefits	127,123	128,227
Average number of employees during year	18,600	19,500
Number of stockholders at year end	16,597	18,377
Number of shares issued at year end	6,183,313	6,183,313

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[1] Based on the shares issued, including shares held in the Treasury for the Stock Option Plan.

The President's Letter

To the Stockholders of
The Babcock & Wilcox Company:

Net income for 1961 of $20,241,000 or $3.27 per share was the highest in the Company's history. It exceeded the previous record, established in 1960, by 13.6 per cent even though sales (shipments) increased only 2.7 per cent.

At its meeting in November 1961, the Board of Directors increased the dividend from an annual rate of $1.40 to $1.60 per share. This is the third successive year that the cash dividend has been increased.

B&W profit ratios have been improving during the past three years. Operating profit as a per cent of sales reached 13.1 per cent in 1961, the highest achieved during the past decade. This has been brought about by sustained efforts to improve operating efficiency and as a result of the large capital investments made in recent years.

Programs to insure future progress are being strengthened and accelerated. During 1961, the Board authorized approximately $28,000,000 for capital projects to be completed during 1962 and 1963. This is the largest amount appropriated in any one year in B&W history. The Company's research and development program is also being intensified to speed the development of new and better products and manufacturing processes.

The moderate improvement in general business conditions during 1961 is reflected in a higher volume of new orders as compared with 1960. Since these new orders exceeded shipments, the backlog of $333,027,000 at the end of 1961 was 14.4 per cent higher than the backlog at the end of 1960.

Previous annual reports have described the diversification of the Company's products and markets. In this year's report, we show a cross-section of B&W products and their applications, with particular emphasis on products of more recent design.

The progress the Company has made would not have been possible without the cooperation of its many customers, the teamwork of its employees, and the support of its stockholders. Speaking for the Board, I wish to express our appreciation to all who are contributing to these efforts.

M. Nielsen.
President

New York, N.Y.
March 1, 1962

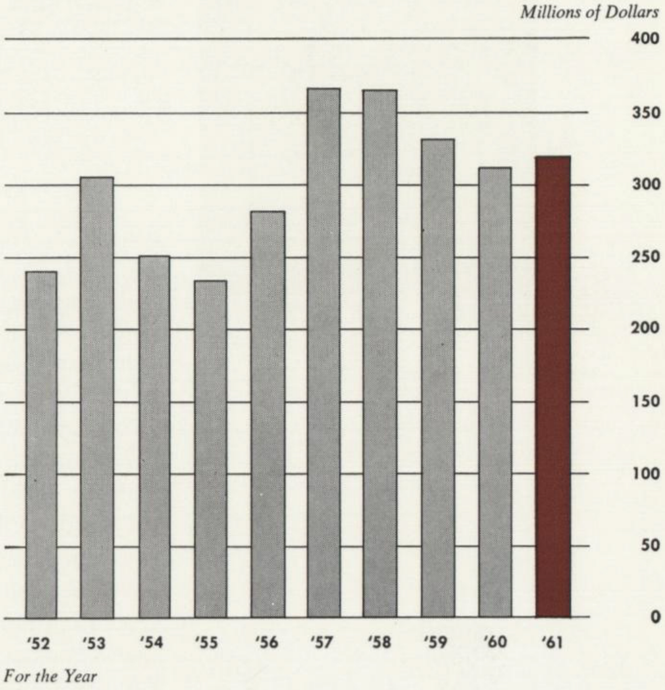
Financial Review

The figures given in this report result from a consolidation of the accounts of the Company and its subsidiaries, Bailey Meter Company, Diamond Power Specialty Corporation, and A. M. Lockett & Co., Ltd.

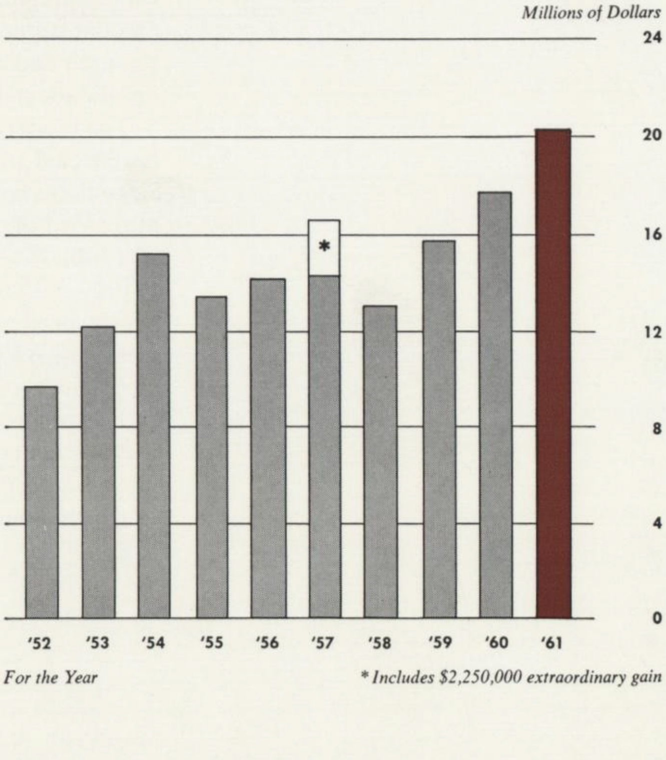
Sales (Shipments), Income and Dividends

	1961	1960
Sales (shipments)	$319,353,000	$310,999,000
Income from operations . .	41,959,000	35,707,000
Net income . . .	20,241,000	17,817,000
Shares issued . .	6,183,313	6,183,313
Earned per share .	$3.27	$2.88

Operating efficiency increased still further in 1961. As a result, a 2.7 per cent increase in sales (shipments) produced a 17.5 per cent increase in income from operations.



Sales (Shipments)



Net Income

** Includes $2,250,000 extraordinary gain*

Dividends were paid and declared during 1961 as follows:

Paid in 1961

Amount Paid	Date Paid	Date of Record
$ .35	Jan. 4	Dec. 9, 1960
.35	April 3	Mar. 10
.35	July 3	June 9
.35	Oct. 2	Sept. 11

$1.40 per share total paid

Declared in 1961

Amount Declared	Date Paid	Date Declared
$ .35	April 3	Feb. 23
.35	July 3	May 25
.35	Oct. 2	Aug. 31
.40	Jan. 2, 1962	Nov. 30 *

$1.45 per share total declared

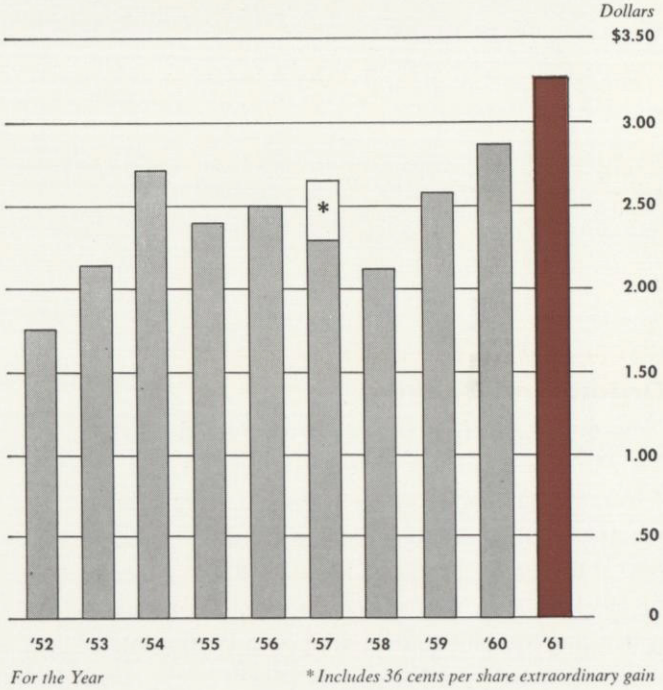
** To holders of record on Dec. 11*

Financial Position

The Company's financial position was further strengthened during the past year. Cash and marketable securities increased from $61,570,000 to $66,660,000. At the year end they exceeded total current liabilities of $50,206,000 by $16,454,000. These funds, together with expected cash flow, should be sufficient to finance the business until at least the end of 1963.

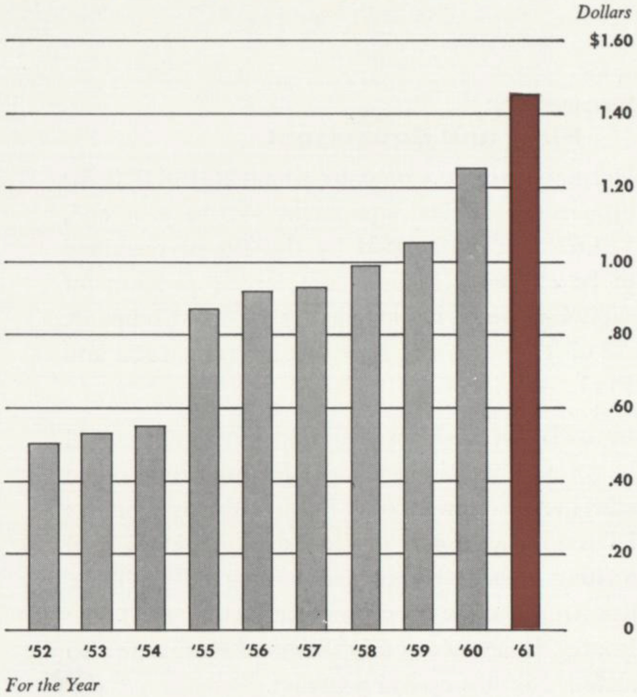
On June 1, 1961, the Company paid the first installment of $2,200,000 on its long-term debt. It also exercised its option to pay an additional $2,200,000 without penalty. As a result, the total debt was reduced from $32,000,000 to $27,600,000.

Earnings per Share



** Includes 36 cents per share extraordinary gain*

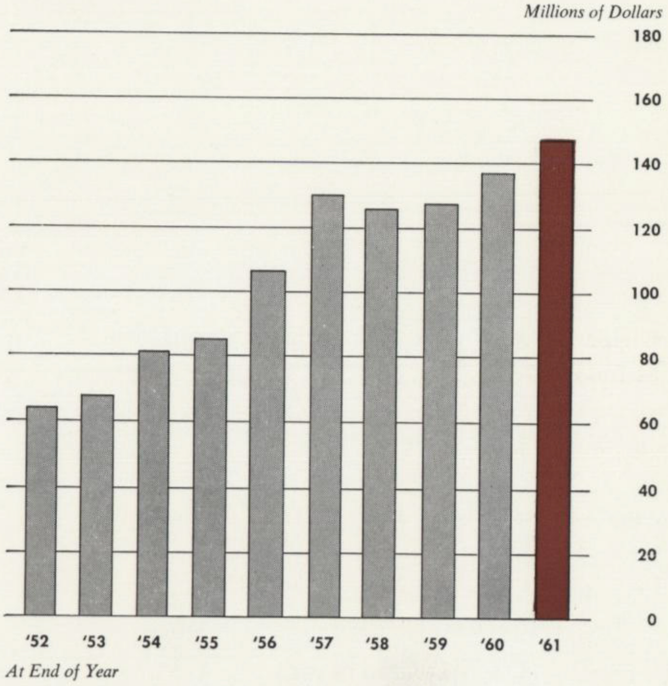
Cash Dividends Declared per Share



Orders and Backlog

New orders received during 1961 totaled $361,285,000, up from the $301,146,000 booked in 1960. Because new orders exceeded sales (shipments), unfilled orders increased from $291,095,000 at the end of 1960 to $333,027,000 at the end of 1961. A large part of the backlog is for steam generating equipment to be shipped in 1963 or later.

Working Capital

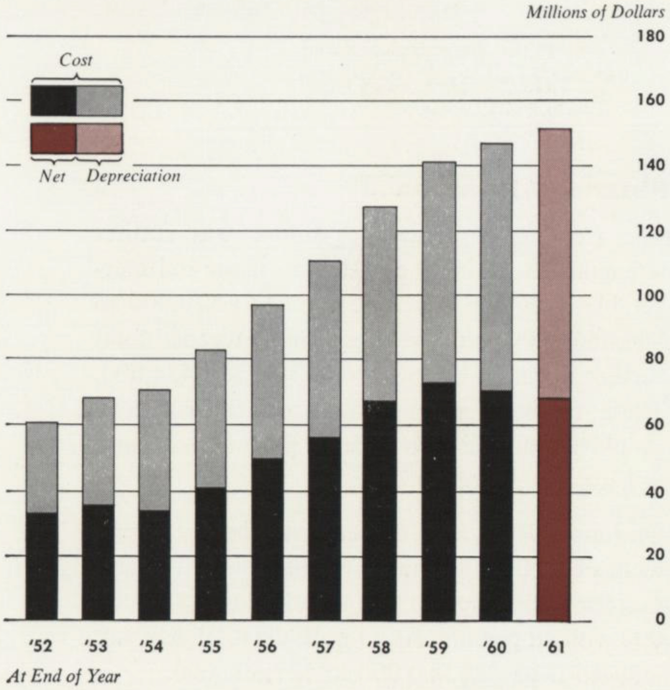


Property, Plant and Equipment

During 1961 the Company spent $6,188,000 for property, plant and equipment. At the year end, $25,628,000 authorized by the Board remained to be expended. This is the largest program of capital projects in the history of the Company. All of it is scheduled for expenditure in 1962 and 1963.

In the Boiler Division, the major expenditures will be for new machine tools and facilities to improve efficiency and lower costs. In the Tubular Products Division, the largest projects are additional steel melting capacity and modern rolling mill facilities. Research and Development, Refractories, Atomic Energy, Bailey Meter and Diamond Power are also included in this capital program.

Property, Plant and Equipment



Employees

The number of active employees during 1961 averaged 18,600. At the end of December 961 retired employees were receiving pensions, an increase during the year of 102. The cost of payrolls and employee benefits, including Company contributions to pension funds, totaled $127,123,000. On December 31 B&W employees were covered by a total of $154,560,000 of group life insurance.

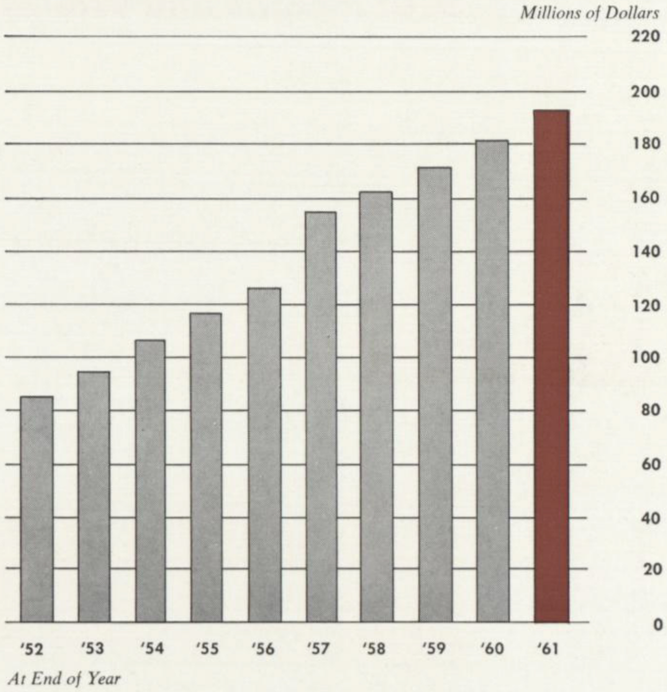
Under formalized pension plans approved by the stockholders in 1955, actuarially determined payments totaling $4,455,000 were made to the pension and retirement funds in 1961.

The changes in the funds are summarized below:

Total assets on January 1, 1961	$19,481,000
Contributions by Company during 1961	4,455,000
Income from pension fund investments during 1961 .	795,000
Less pensions paid during 1961	(1,327,000)
Total assets on December 31, 1961 . . .	$23,404,000

Following is the status of the Company's Stock Option Plan approved by the stockholders in 1958. It authorized granting of options to key employees to purchase up to 150,000 shares of Babcock & Wilcox capital stock at prices not less than 95 per cent of the market value at the time of granting. In accordance with the plan, the number of shares was increased to 151,500, after the one per cent stock dividend was declared in 1958.

Stockholders' Equity



Options were outstanding on January 1, 1961 for .	83,927 shares
Options were exercised during 1961 for	7,671 shares
Options were outstanding December 31, 1961 for a total of	76,256 shares

At the end of December, 62,119 shares remained for the granting of options.

Because only previously issued shares must be used to meet the stock options granted, the Company acquired sufficient shares on the open market for that purpose. The cost of shares acquired for options outstanding on December 31, 1961 was $2,542,915. This amount is included in Prepaid Expenses and Other Assets in the Statement of Financial Condition. If all outstanding options are exercised, $2,405,651 will be returned to the Company.

1961 Income and Where It Went

Our Income Was

From products shipped to customers	$319,353,000
From investment income	2,283,000
Total	**$321,636,000**

We Paid Out and Provided

For materials and services purchased	$138,624,000	43.1%
For wages, salaries and employee benefits	127,123,000	39.5
For taxes	25,554,000	8.0
For depreciation of plant and equipment	8,673,000	2.7
For interest on money borrowed	1,120,000	0.3
For minority interest in subsidiary company	301,000	0.1
For cash dividends to stockholders	8,849,000	2.8
For future growth (retained earnings)	11,392,000	3.5
Total	**$321,636,000**	**100.0%**

Consolidated Statement of Income and Retained Earnings

for the Calendar Year

	1961	1960
Sales (on percentage of completion method for long-term contracts)	$319,352,917	$310,999,299
Costs and expenses:		
Materials, payrolls, services and taxes other than U. S. and foreign taxes on income	268,720,966	266,750,115
Depreciation of plants and equipment (includes amortization $1,246,261 in 1961 and $1,323,116 in 1960)	8,672,924	8,542,657
	277,393,890	275,292,772
Income from operations	41,959,027	35,706,527
Income from investments and marketable securities	2,282,931	2,011,217
Interest expense	(1,119,850)	(1,217,500)
	43,122,108	36,500,244
U. S. and foreign taxes on income	22,580,000	18,380,000
	20,542,108	18,120,244
Income applicable to minority interest	(301,586)	(302,650)
Net income for the year	20,240,522	17,817,594
Cash dividends declared	8,849,285	7,631,916
Remainder added to retained earnings	11,391,237	10,185,678
Retained earnings at beginning of year	99,405,814	89,220,136
Retained earnings at end of year (see note below)	$110,797,051	$ 99,405,814

NOTE: Under note agreements, retained earnings in the sum of $66,079,000 on December 31, 1961 were unrestricted for the payment of dividends.

Consolidated Statement of Financial Condition

AT DECEMBER 31	1961	1960
CURRENT ASSETS		
Cash	$ 10,771,086	$ 12,887,100
Marketable securities, at cost (approximate market)	55,889,154	48,682,491
Accounts receivable	54,218,097	53,133,067
Unbilled shipments and installations, at contract prices	17,452,803	15,579,953
Inventories, at lower of cost or market	72,150,592	66,188,164
Advance payments on contracts	(13,752,233)	(13,205,440)
TOTAL CURRENT ASSETS	196,729,499	183,265,335
CURRENT LIABILITIES		
Portion of long-term debt due within one year	2,200,000	2,200,000
Accounts payable	9,816,887	11,191,654
Accrued liabilities	17,562,902	15,911,264
Cash dividends payable	2,442,823	2,135,065
Provision for additional costs on contracts	2,000,000	1,603,107
U. S. and foreign income taxes	16,183,191	13,059,618
TOTAL CURRENT LIABILITIES	50,205,803	46,100,708
WORKING CAPITAL	146,523,696	137,164,627
INVESTMENTS, at cost	1,044,417	723,120
PROPERTY, PLANT AND EQUIPMENT (see page 11)	68,406,298	70,924,940
PREPAID EXPENSES AND OTHER ASSETS (includes cost of shares of the Company's stock acquired for stock options — 76,256 shares in 1961; 83,927 shares in 1960 — see page 7)	3,929,735	4,096,486
PATENTS	1	1
WORKING CAPITAL AND OTHER ASSETS	219,904,147	212,909,174
DEDUCT		
Long-term debt — notes payable (3⅝% and 3⅞%) due in annual installments, June 1, 1964-1974	25,400,000	29,800,000
Minority interest in subsidiary company	1,375,669	1,371,933
NET ASSETS	$193,128,478	$181,737,241
REPRESENTED BY		
Capital stock, par value $9 per share; authorized 9,000,000 shares; issued 6,183,313 shares (including $26,681,610 excess over par value — capital surplus)	$ 82,331,427	$ 82,331,427
Retained earnings (see note page 9)	110,797,051	99,405,814
	$193,128,478	$181,737,241

Consolidated Statement of Property, Plant and Equipment

	AT DECEMBER 31 1961	AT DECEMBER 31 1960
COST		
At beginning of year	$146,140,091	$140,587,265
Expenditures during year	6,188,038	6,105,390
Retired or sold during year	(810,331)	(552,564)
At end of year	151,517,798	146,140,091
DEPRECIATION AND AMORTIZATION		
At beginning of year	75,215,151	67,196,871
Charged to operations during year	8,672,924	8,542,657
Accumulated on property retired or sold during year	(776,575)	(524,377)
At end of year	83,111,500	75,215,151
Net book value	$ 68,406,298	$ 70,924,940

Opinion of Independent Public Accountants

TO THE BOARD OF DIRECTORS OF
THE BABCOCK & WILCOX COMPANY:

In our opinion, the accompanying statements present fairly the consolidated financial position of The Babcock & Wilcox Company and its subsidiaries at December 31, 1961 and the results of their operations for the year, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year. Our examination of these statements was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

PRICE WATERHOUSE & CO.

New York, N. Y.
February 28, 1962

Ten Year Comparison of Income and Retained Earnings

(in thousands of dollars)

	1961
Sales (on percentage of completion method for long-term contracts)	$ 319,353
COSTS AND EXPENSES:	
Materials, payrolls, services and taxes other than U. S. and foreign taxes on income	268,721
Depreciation and amortization	8,673
	277,394
Income from operations	41,959
Income from investments and marketable securities	2,283
Interest expense	(1,120)
	43,122
U. S. and foreign taxes on income	22,580
	20,542
Income applicable to minority interest	(301)
Provision for pension reserve prior to funded plan	
Extraordinary gain less related taxes	
Net income for the year	20,241
DIVIDENDS DECLARED:	
Cash	8,849
Stock – 1% in 1958, 4% in 1957 and 1956, 5% in all other years indicated	
	8,849
Remainder added to retained earnings	11,392
Retained earnings at beginning of year	99,405
Transfer to capital stock	
Transfer from pension reserve	
Retained earnings at end of year	$ 110,797

Statistics

	1961
Income from operations before taxes – % of sales	13.1%
Net income for year – % net worth first of year	11.1%
Orders received – thousands of dollars	$ 361,285
Unfilled orders – thousands of dollars	$ 333,027
Shares issued during year: Stock dividend	
Stock split	
Stock sold	
Shares issued end of year	6,183,313
Per Share issued (adjusted for stock dividends and stock splits – 6,183,313 shares in 1957-1961 inclusive and 5,621,194 in previous years)	
Income for year	**$ 3.27**
Cash dividends declared	**1.45**
Stockholders' equity	**31.23**

Note: Figures for 1952 have been restated to include subsidiaries not consolidated in the published report for that year.

1960	1959	1958	1957	1956	1955	1954	1953	1952
$ 310,999	$ 332,071	$ 365,941	$ 366,081	$ 281,485	$ 233,291	$ 250,471	$ 305,746	$ 241,267
266,749	291,058	329,221	326,375	244,890	197,006	214,539	273,701	213,510
8,543	7,650	7,013	6,779	6,699	6,249	5,234	4,410	3,289
275,292	298,708	336,234	333,154	251,589	203,255	219,773	278,111	216,799
35,707	33,363	29,707	32,927	29,896	30,036	30,698	27,635	24,468
2,011	1,509	462	386	562	515	737	206	436
(1,218)	(1,218)	(1,218)	(1,238)	(854)	(354)	(580)	(891)	(397)
36,500	33,654	28,951	32,075	29,604	30,197	30,855	26,950	24,507
18,380	17,430	15,640	17,630	15,320	16,520	15,470	14,190	13,750
18,120	16,224	13,311	14,445	14,284	13,677	15,385	12,760	10,757
(303)	(286)	(276)	(239)	(203)	(190)	(173)	(699)	(898)
								(50)
			2,250					
17,817	15,938	13,035	16,456	14,081	13,487	15,212	12,061	9,809
7,632	6,435	6,107	5,753	5,146	4,901	3,112	2,963	2,822
		1,993	7,000	8,760	7,470	4,500	2,810	2,353
7,632	6,435	8,100	12,753	13,906	12,371	7,612	5,773	5,175
10,185	9,503	4,935	3,703	175	1,116	7,600	6,288	4,634
89,220	79,717	74,782	71,079	70,984	67,618	60,018	53,730	49,096
				(80)				
					2,250			
$ 99,405	$ 89,220	$ 79,717	$ 74,782	$ 71,079	$ 70,984	$ 67,618	$ 60,018	$ 53,730

11.5%	10.0%	8.1%	9.0%	10.6%	12.9%	12.2%	9.0%	10.1%
10.4%	9.8%	8.4%	13.0%	12.0%	12.7%	16.1%	14.2%	12.5%
$ 301,146	$ 395,540	$ 236,201	$ 306,072	$ 495,257	$ 317,283	$ 192,199	$ 157,255	$ 227,563
$ 291,095	$ 300,948	$ 237,479	$ 367,219	$ 427,228	$ 213,456	$ 129,464	$ 187,736	$ 336,227
	61,220	235,465	205,826	81,677	77,787	74,083	70,555	
				3,430,436				
			535,148					
6,183,313	6,183,313	6,122,093	5,886,628	5,145,654	1,633,541	1,555,754	1,481,671	1,411,116
$ 2.88	**$ 2.58**	**$ 2.11**	**$ 2.66**	**$ 2.50**	**$ 2.40**	**$ 2.71**	**$ 2.15**	**$ 1.75**
1.25	**1.05**	**.99**	**.93**	**.92**	**.87**	**.55**	**.53**	**.50**
29.39	**27.74**	**26.21**	**25.09**	**22.44**	**20.85**	**18.92**	**16.77**	**15.15**

Ten Year Comparison of Financial Condition

	1961
CURRENT ASSETS	
Cash	$ 10,771
Marketable securities	55,889
Accounts receivable	54,218
Unbilled shipments and installations	17,453
Inventories	72,151
Advance payments on contracts	(13,752)
TOTAL CURRENT ASSETS	196,730
CURRENT LIABILITIES	
Notes payable	2,200
Accounts payable	9,817
Accrued liabilities	17,563
Cash dividends payable	2,443
Provision for additional costs on contracts	2,000
U. S. and foreign income taxes	16,183
TOTAL CURRENT LIABILITIES	50,206
WORKING CAPITAL	146,524
INVESTMENTS	1,044
PENSION RESERVE INVESTMENTS	
PROPERTY, PLANT AND EQUIPMENT	68,406
PREPAID EXPENSES AND OTHER ASSETS	3,930
WORKING CAPITAL AND OTHER ASSETS	219,904
DEDUCT:	
Long-term debt	25,400
Reserve for pensions prior to funded plan	
Minority interest in subsidiary companies	1,375
NET ASSETS	$193,129
REPRESENTED BY	
Capital including capital surplus	$ 82,332
Stock dividends paid January following year	
Retained earnings	110,797
	$193,129

Ten Year Comparison of Property, Plant and Equipment

COST	
At beginning of year	$146,140
Expenditures during year	6,188
Retired or sold during year	(810)
At end of year	151,518
DEPRECIATION AND AMORTIZATION	
At beginning of year	75,215
Charged to operations during year	8,673
Accumulated on property retired or sold during year	(776)
At end of year	83,112
NET BOOK VALUE	$ 68,406

Note: Figures for 1952 have been restated to include subsidiaries not consolidated in the published report for that year.

(at December 31st in thousands of dollars)

1960	1959	1958	1957	1956	1955	1954	1953	1952
$ 12,887	$ 9,531	$ 11,764	$ 12,873	$ 14,578	$ 14,184	$ 20,121	$ 9,062	$ 6,785
48,682	29,987	11,686	4,729	1,999	8,805	7,268	1,550	1,950
53,133	59,726	52,514	45,686	39,394	34,198	39,277	43,886	42,560
15,580	21,688	29,533	20,200	10,161	10,925	17,758	20,638	17,597
66,188	63,357	76,939	104,504	91,486	56,996	40,975	56,902	56,768
(13,205)	(10,608)	(11,226)	(12,168)	(9,427)	(2,232)	(2,649)	(2,069)	(13,887)
183,265	173,681	171,210	175,824	148,191	122,876	122,750	129,969	111,773
2,200							20,500	10,000
11,192	12,678	12,991	10,838	12,270	9,394	11,413	12,833	11,240
15,911	16,950	15,436	14,922	12,186	9,045	9,002	10,922	9,085
2,135	1,832	1,520	1,472	1,286	1,225	778	741	706
1,603	2,611	3,913	3,315	1,762	2,803	4,000	2,500	2,500
13,060	12,157	12,312	14,975	13,867	15,109	16,588	15,560	14,770
46,101	46,228	46,172	45,522	41,371	37,576	41,781	63,056	48,301
137,164	127,453	125,038	130,302	106,820	85,300	80,969	66,913	63,472
723	604	604	604	1,600	1,600	1,603	2,177	2,194
						2,250	2,250	2,250
70,925	73,390	67,867	56,741	49,830	40,657	34,289	35,816	32,748
4,097	3,472	1,890	734	1,058	748	566	397	505
212,909	204,919	195,399	188,381	159,308	128,305	119,677	107,553	101,169
29,800	32,000	32,000	32,000	32,000	10,000	10,000	10,000	10,000
						2,250	2,250	2,250
1,372	1,367	1,350	1,261	1,158	1,091	1,049	1,025	3,739
$181,737	$171,552	$162,049	$155,120	$126,150	$117,214	$106,378	$ 94,278	$ 85,180
$ 82,332	$ 82,332	$ 80,339	$ 73,338	$ 46,311	$ 38,760	$ 34,260	$ 31,450	$ 29,097
		1,993	7,000	8,760	7,470	4,500	2,810	2,353
99,405	89,220	79,717	74,782	71,079	70,984	67,618	60,018	53,730
$181,737	$171,552	$162,049	$155,120	$126,150	$117,214	$106,378	$ 94,278	$ 85,180

(in thousands of dollars)

$140,587	$127,800	$110,291	$ 97,311	$ 82,215	$ 70,117	$ 67,177	$ 60,183	$ 50,893
6,105	13,183	18,162	13,708	15,921	12,640	3,792	7,493	9,684
(552)	(396)	(653)	(728)	(825)	(542)	(852)	(499)	(394)
146,140	140,587	127,800	110,291	97,311	82,215	70,117	67,177	60,183
67,197	59,933	53,550	47,481	41,558	35,828	31,361	27,435	24,529
8,543	7,650	7,013	6,779	6,699	6,249	5,234	4,410	3,289
(525)	(386)	(630)	(710)	(776)	(519)	(767)	(484)	(383)
75,215	67,197	59,933	53,550	47,481	41,558	35,828	31,361	27,435
$ 70,925	$ 73,390	$ 67,867	$ 56,741	$ 49,830	$ 40,657	$ 34,289	$ 35,816	$ 32,748

Product and Market Developments

When the Babcock & Wilcox partnership was formed in 1867 it had only one major product: a water-tube boiler that was a significant technological advance over the then prevalent fire-tube boiler.

Today, as a result of continuing product improvement, diversification and manufacturing integration, the Company has several divisions and subsidiaries supplying a wide range of products and services to American industry.

Growth through these methods continues. Some current examples are:

Bailey Meter Company's development of economical systems for automating power plants and industrial processes.

Diamond Power Specialty Corporation's extension of its foreign coverage by acquiring sales and manufacturing facilities abroad.

The Tubular Products Division's modernization of its steel-making facilities and diversification into new products such as extrusions and welding fittings.

The Refractories Division's new product development in high-temperature firebrick and ceramic fibers.

The Boiler Division's development of the Universal Pressure Boiler System, which makes possible a higher level of efficiency in generating electricity.

The Atomic Energy Division's development of a new concept in pressurized water reactors offering substantial savings in capital and total energy-producing costs of atomic power plants.

These are representative of the many new and improved products developed by all B&W operating divisions and subsidiaries. American industry is accelerating its search for better ways to serve its customers. B&W, which serves so much of industry, also is stepping up the pace of its research and development activity to insure that it can continue to keep ahead of the needs of its customers as well as to develop new products and markets.

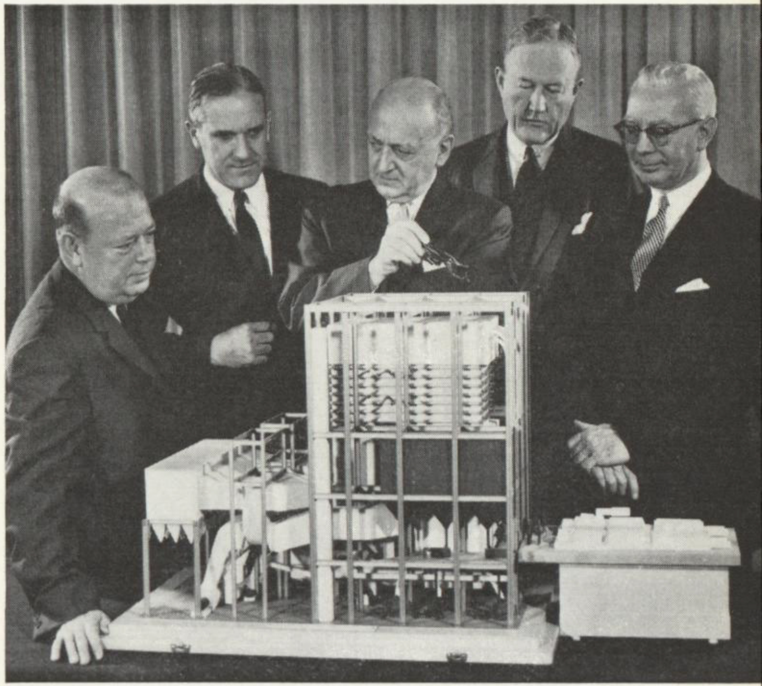
An advanced concept in steam generation: the Universal Pressure Boiler System

A major new product resulting from B&W's long-range research and development program is the Universal Pressure Boiler System.

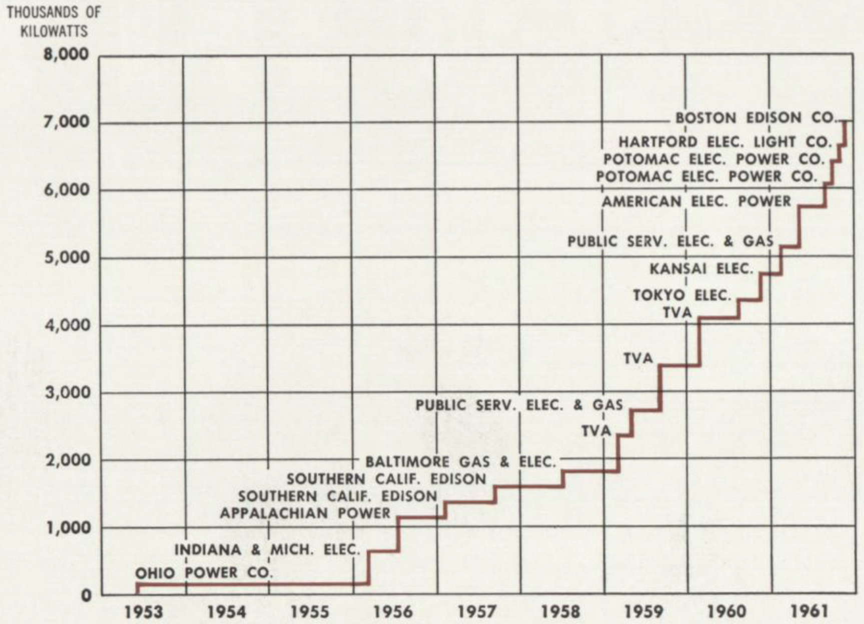
The UP Boiler makes it possible to operate at exceedingly high pressures and thus assures high levels of plant efficiency. It also makes possible significant savings in construction and operating costs for plants operating at lower pressures.

It is a true once-through boiler system – in effect, one long tube. Water enters at one end, absorbs heat, changes to steam, becomes superheated and then leaves the other end at the desired temperature and pressure. The boiler drum, the heaviest single component of the natural circulation boiler, has been eliminated.

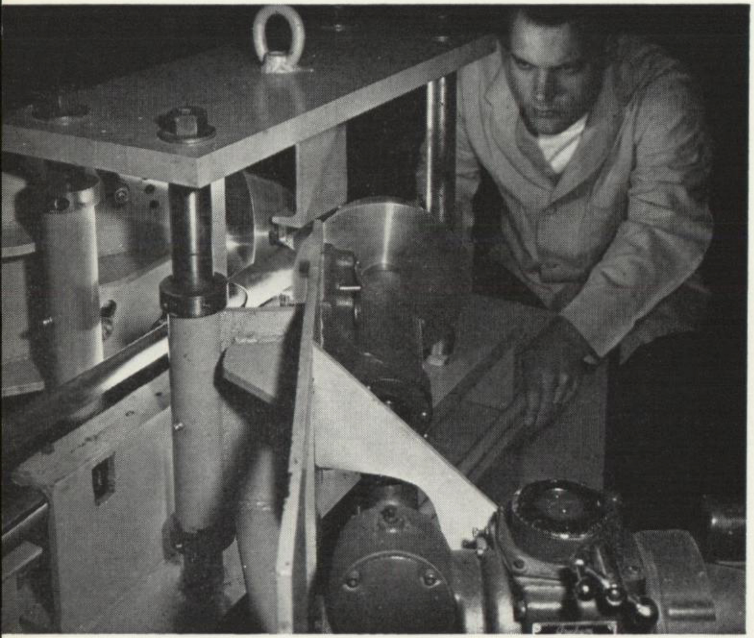
Eighteen UP Boilers, some more than 20 stories high, are installed or on order. The plants containing these boilers represent an investment by utility companies of approximately one billion dollars. When completed and operating at capacity, the plants will generate more than seven million kilowatts of electricity each hour – enough to supply the entire present electrical needs of all six New England states.



Boiler Division management is shown with a model of the Universal Pressure Boiler System, a B&W development which makes possible a higher level of efficiency in generating electricity.



Orders for Universal Pressure Boiler Systems
now total 18 units or 7,010,000 kilowatts



Among the scores of research and development programs underway at B&W's Research Center is this fundamental study of the piercing of billets to make seamless tubes.

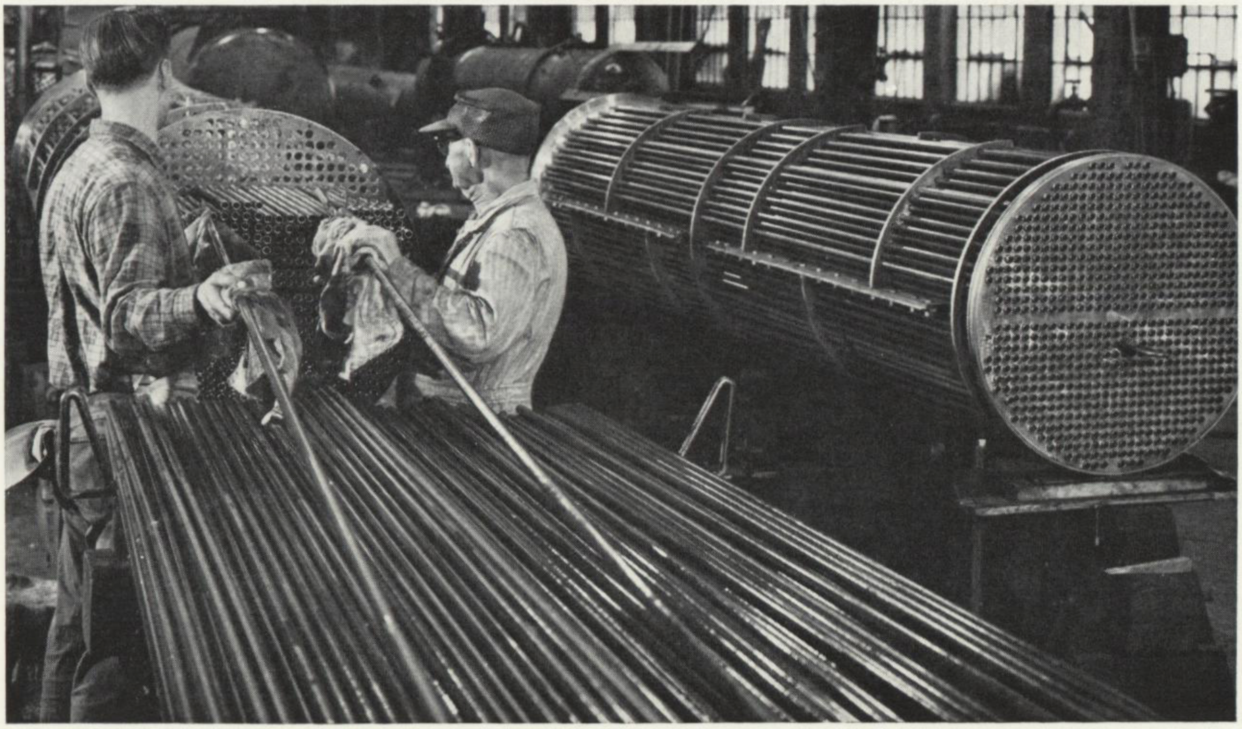
There are several major reasons for the success of this new product and for B&W's belief that it will receive increasing acceptance by the utility industry. The UP boiler costs the customer less in installed capital cost than other types of similar capacity. Fuel and maintenance costs also are measurably lower, and the UP requires less downtime for routine maintenance and repairs, thus assuring the customer of higher availability.

Sales of both B&W utility and industrial boilers in the last several years have been considerably less cyclical than formerly. Indications are that this trend in boiler sales will continue.

New tubing products expand markets

The Company has pioneered improvements in seamless mechanical and pressure tubing and in the processes to make them. Both fundamental and applied research studies on tubing are continuing under the

Your Company makes both welded and seamless tubing of carbon, alloy and stainless steel. Most industries use tubing in one form or another, such as in this heat exchanger for the petroleum industry.



Welding fittings are used in many different applications, such as in the piping systems on off-shore oil drilling platforms. The Company is continuing to improve its position in this field.

joint efforts of the Tubular Products and Research and Development Divisions.

Sales of B&W's welded heat exchanger and condenser tubing are increasing steadily. Lowered cost and improved quality have expanded markets for this tubing and the companion "Lectrosonic" welded hydraulic line tubing among manufacturers of machine tools, farm implements, road building equipment, materials handling equipment and hydraulic components and controls.

Since the new B&W welding fittings plant was placed in production in October 1960, the Company has steadily improved its position in this highly competitive field. As the only integrated manufacturer of fittings in the United States, B&W is able to supply matched components to meet exacting standards for all parts of carbon and alloy piping systems.

Bailey Meter advances automation

Bailey Meter has developed an advanced concept to automate power plants and industrial processes. Known as the Bailey 700 System, this electronic digital system performs data processing, performance computing, fault monitoring and program control.

The Bailey system offers a step-by-step approach to automation that requires only step-by-step commitment, yet provides benefits along the way. For example, an initial partial installation will provide many of the benefits of complete automation but with correspondingly smaller investment. Decision to take each succeeding step can be made after there is evidence that it would be justified both on the basis of cost and function.

A typical application of the Bailey 700 System is on two B&W boilers recently installed for a southwestern utility. Here plant operators receive simplified data from a Bailey 750 information system. The ability to achieve uniform and safe furnace operation is increased by a Bailey 760 burner light-off system. More than 50 of the new 700 Systems have already been purchased.

Until about six years ago, most of Bailey Meter's products were built for electric power utilities. Today Bailey has developed much broader market opportunities. Sales have been steadily increasing to such industries as iron and steel, chemical, cement, non-ferrous metals, pulp and paper, and ceramics.

New refractory products introduced

New refractory products, coupled with efficient materials handling methods and improved processes for making brick semi-automatically, are increasing the profit potential of our Refractories Division.

Two recently introduced types of high-temperature firebrick have increased B&W's ability to meet

the refractory requirements of the steel and glass industries. These firebrick are being used in electric furnace roofs, reheating furnaces, metal mixers and other severe-service applications.

Another new product, a refractory castable, was designed for fast repair of blast furnace linings. The castable is sprayed rapidly in place by a pneumatic gun, dries rock hard, and quickly becomes strong when exposed to high temperatures. Substantial savings are made by reducing downtime for repairs to a few days and by extending the life of the lining.

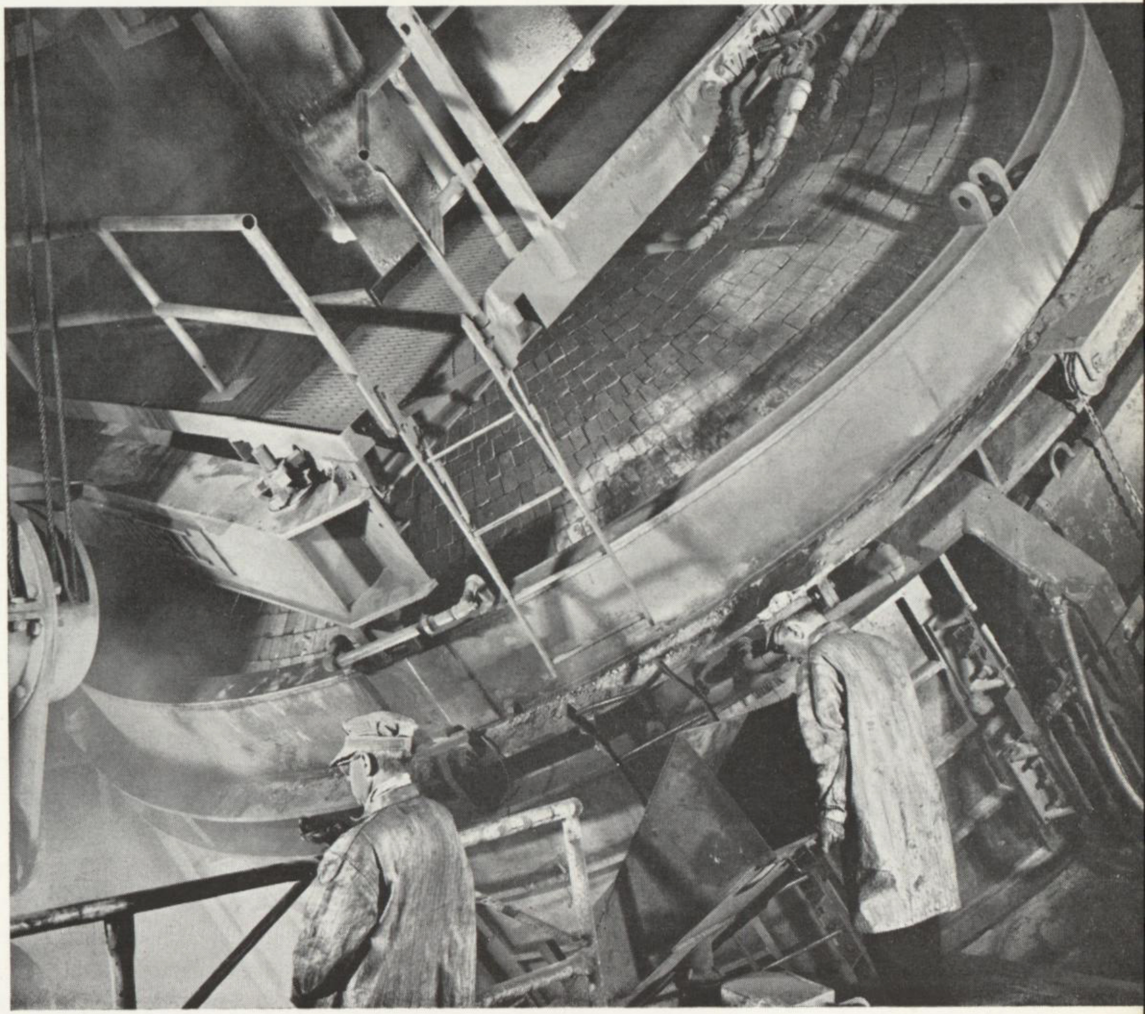
Diamond Power expands markets

During 1961 Diamond Power Specialty Corp. added more than ten new or improved products to its line. Also, it purchased outright a small English company which will manufacture Diamond Power products for Great Britain and the British Commonwealth as well as the European Continent. This foreign facility will help to increase Diamond Power's sales in these markets.

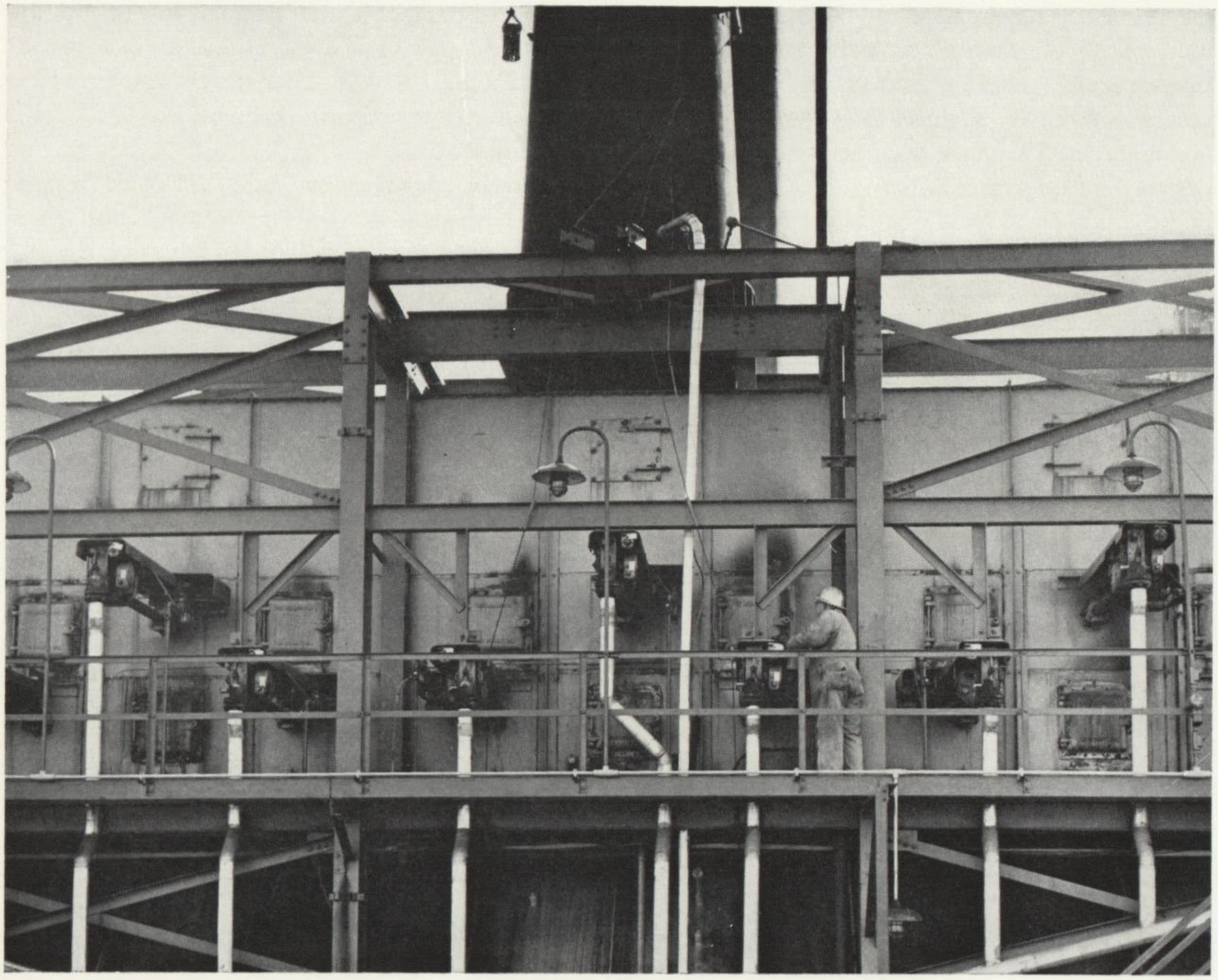
Principal new Diamond products include an extra-long retractable blower for cleaning boilers, new blowers that need to be lubricated only once a year under normal operating conditions, and new all-weather industrial television camera units.

It is now feasible for boiler designers to increase the width of furnaces because Diamond's new extra-long blowers, mounted on each side of a furnace, can economically clean an area up to 90 feet wide. The new minimum-lubrication blowers save maintenance time and cost for their users.

◀
Bailey control system shown here simplifies operation in a modern cement plant.



▶
Durability of B&W's new high-temperature firebrick was proved by extensive use in the Tubular Products Division's electric-arc furnace at Koppel. This new type of brick is now widely used in the steel industry.



Diamond Power's principal product line is boiler and furnace cleaning equipment, such as the seven retractable soot blowers installed in this refinery. Among Diamond Power's newer products is a combination industrial TV camera and power unit.

A combination industrial television camera and power unit, known as the Hawk 401, was placed on the market in August. This rugged and economical equipment gives the viewer a clear picture over a wide range of lighting conditions without frequent manual adjustments.

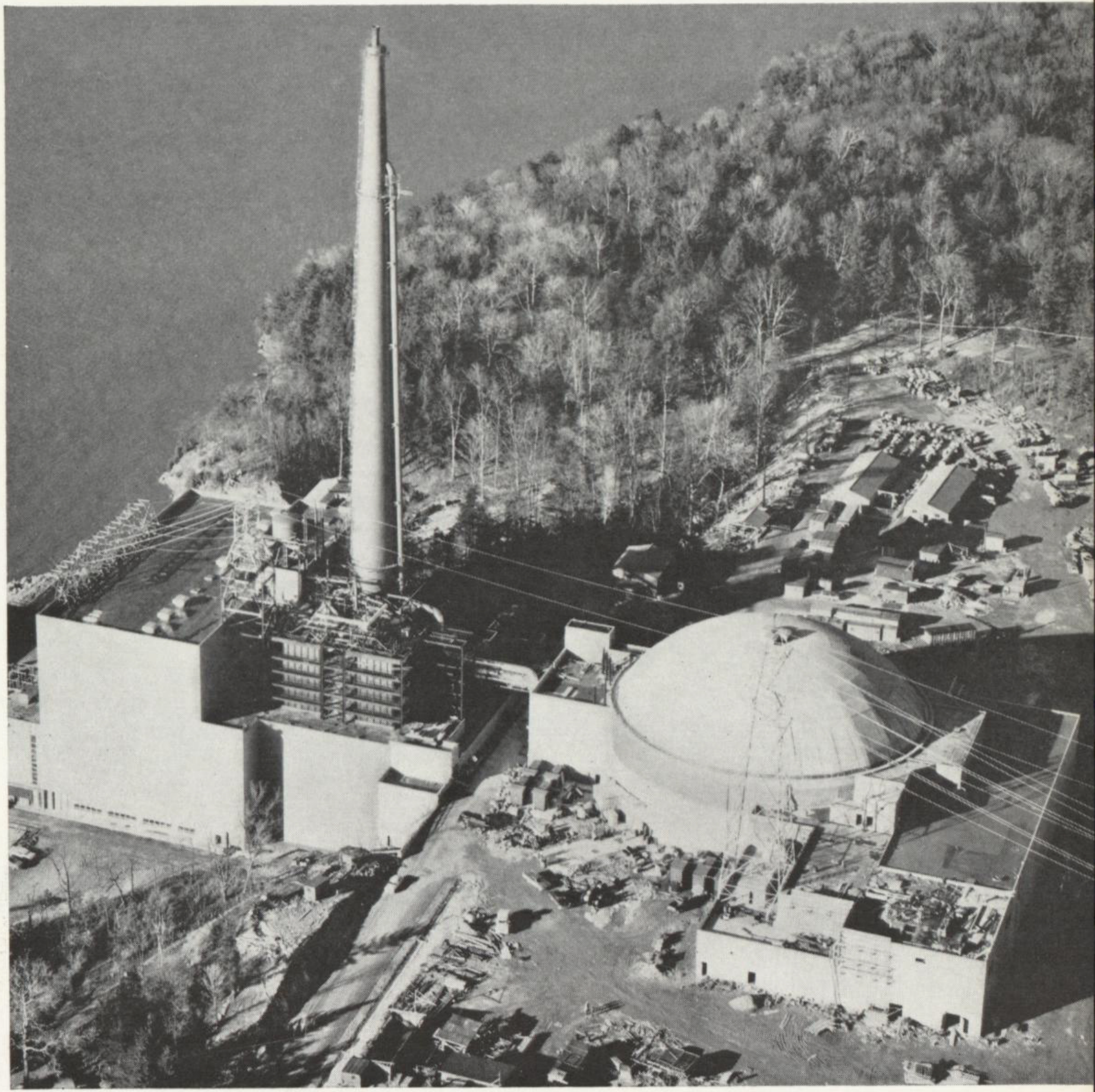
B&W a leader in nuclear energy

B&W continues to be one of the world leaders in the peaceful applications of nuclear energy. B&W offers its design and engineering know-how and sells nuclear reactors, components and fuel elements here and abroad. Major current projects include Consolidated Edison's Indian Point nuclear power plant and the Nuclear Ship Savannah, the world's first atom-powered merchant ship.

An historic milestone was reached on December 21, 1961, when the Savannah's atomic reactor went critical for the first time aboard ship. The entire system will undergo a period of testing before the vessel sets out on her sea trials.

The B&W-developed pressurized water reactor in the $100,000,000 Indian Point power station takes the place of a furnace in a conventional power plant. This reactor is the first to have a core which converts thorium into fissionable uranium, thus opening the way to utilizing the nation's thorium reserves for power production. The core includes in excess of a ton of highly enriched uranium oxide and close to 18 tons of thorium oxide.

The Company is now ready to build and sell nuclear reactors in the 400,000 kilowatt range employing a new concept of control developed by B&W scientists and engineers. Known as the Spectral Shift Control Reactor, it is an advanced design of the pressurized-water type. Control is achieved by varying the ratio of light to heavy water serving as moderator-coolant. This reactor will permit production of electricity at competitive prices in areas where fossil-fuel costs are high.



An important B&W nuclear energy project is Consolidated Edison's atomic power plant at Indian Point, N. Y. B&W is a major factor in the nuclear field, selling its design and engineering know-how in addition to equipment such as nuclear reactors, components and fuel elements.

The Babcock & Wilcox Company

General Offices: New York, N. Y.
Sales Offices in principal cities.

Facilities

Boiler Division

Alliance, Ohio
Barberton, Ohio
Brunswick, Georgia
Lynchburg, Virginia
Paris, Texas
West Point, Mississippi
Wilmington, North Carolina

Engineering Branch Offices

Cleveland, Ohio
St. Petersburg, Florida
Scranton, Pennsylvania

Atomic Energy Division

Lynchburg, Virginia

Tubular Products Division

Alliance, Ohio
Beaver Falls, Pennsylvania
Milwaukee, Wisconsin

Refractories Division

Augusta, Georgia

Research and Development Division

Alliance, Ohio

Bailey Meter Company

Cleveland, Ohio
Wickliffe, Ohio
Montreal, Canada

Diamond Power Specialty Corporation

Lancaster, Ohio
Southampton, England

Products

STEAM GENERATING EQUIPMENT

- For Power, Industrial Process and Heating, and for Marine Service
    - Water Tube Boilers
    - Water Cooled Furnaces
    - Superheaters and Reheaters
    - Economizers and Airheaters
    - Pulverized Coal Equipment
    - Cyclone Furnaces, Stokers
    - Oil, Gas and Multi-Fuel Burners
- Metering and Control Apparatus
- Power Plant Information Systems and Performance Monitors
- Soot Blowing Systems and Water Gauges

TUBULAR PRODUCTS

- Stainless, Alloy, or Carbon Steel
    - Tubes and Pipe for all types of Pressure and Mechanical Applications
    - Extrusions – Tubular and Solid Shapes
    - Welding Fittings and Flanges
    - Seamless Rolled Rings

ATOMIC ENERGY

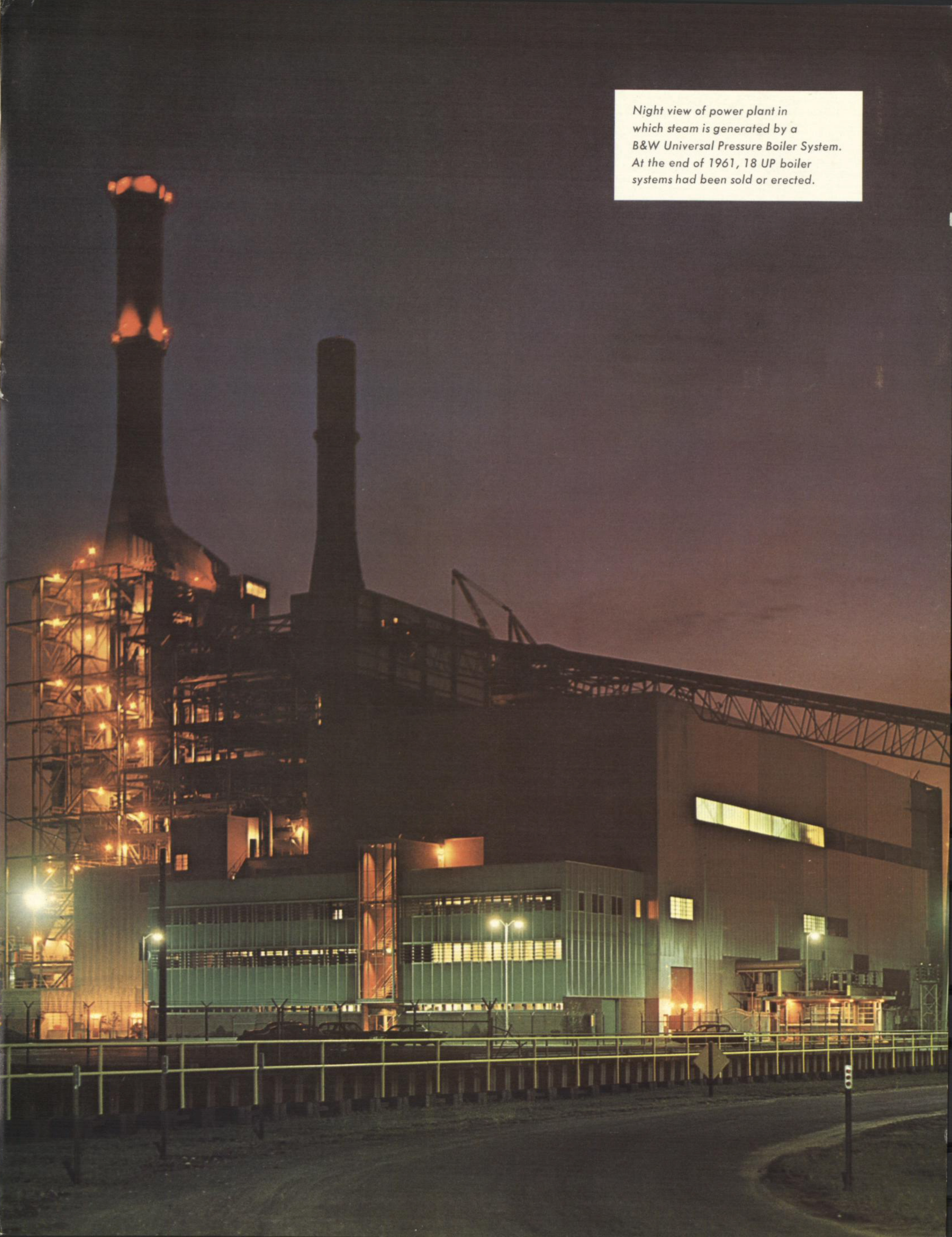
- Complete Nuclear Power Systems and Components
    - Reactors, Cores and Vessels
    - Fuel Elements
    - Heat Exchangers
    - Controls and Instrumentation
- Test Reactors
- Critical Experiments
- Research and Economic Studies

REFRACTORIES

- For Furnaces and Heat Treating Processes
    - Insulating Firebrick
    - Special Firebrick
    - Silicon Carbide
    - Plastics, Mortars, Castables Ramming Mixes, Calcines
    - Ceramic Fiber

SPECIAL EQUIPMENT

- Hollow Forgings
- Alloy Castings
- Pressure Vessels
- Heat Exchangers
- Automatic Process Control Systems
- Recovery Processes for the Pulp Industry
- Pulverizers for Cement Materials, Rock Products and Ores
- Industrial (Closed Circuit) Television



Night view of power plant in which steam is generated by a B&W Universal Pressure Boiler System. At the end of 1961, 18 UP boiler systems had been sold or erected.

1961

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B&W